COMPLETE SAMPLE DELIVERY GROUP FILE (CSF)
EVIDENCE AUDIT CHECKLIST
U.S. Environmental Protection Agency - Region 8
Environmental Services Division, Multi-Media Branch
Analytical Operations Section

Audit Number: 08-59-08 Site Name: Richardson Flat Tailings

Date CSF Received: 6/26/08 Site Manager: Kathryn Hennessy

Received By: Carl Beard RAS Number: 37402

Date of Audit: 6/30/08 ULSA Number:

Audited By: Carl Beard SDG Number: MN260V

Resubmitted CSF? Yes___ No___ Number of Samples: 8/4/W

Lab Name: DATA CHEM Laboratories CLP Lab Code: DATAC

Lab Location: Salt Lake City, UT

AUDIT CHECKLIST

CHAIN OF CUSTODY

1.	Custody Seal Present?	Yes ✓	No___
2.	Condition of Seal? Intact ✓ Signed ✓	Broken___	Unsigned___
3.	Chain of Custody Record(s) Present?	Yes ✓	No___
4.	Chain of Custody Record(s) Signed?	Yes ✓	No___
5.	Chain of Custody Record(s) Dated?	Yes ✓	No___
6.	Traffic Report(s) or Packing List(s) Present?	Yes ✓	No___
7.	Traffic Report(s) or Packing List(s) Signed?	Yes ✓	No___
8.	Airbill Present?	Yes___	No___
9.	Airbill Number(s): Samples hand delivered to DATA		
10.	Airbill Signed?	Yes___	No___
11.	Airbill Dated?	Yes___	No___
12.	Sample Tags Present?	Yes___	No___
13.	Should Sample Tags be Present? See Pg 243	Yes___	No___

UDIT NUMBER: 08-57-01

ORM DC-2

4.	Form DC-2 Present?	Yes ✓ No___
5.	Numbering Scheme on Form DC-2 Correct?	Yes ✓ No___
6.	Enclosed Documents Listed?	Yes ✓ No___
7.	Listed Documents Enclosed?	Yes ✓ No___

ORM DC-1

8.	Form DC-1 Present?	Yes ✓ No___
9.	Form DC-1 Complete?	Yes ✓ No___
0.	Form DC-1 Correct?	Yes ✓ No___

OCUMENT CONTROL

1.	Laboratory Documents Complete?	Yes ✓ No___
2.	Laboratory Documents Legible?	Yes ✓ No___
..	Original Documents Included in CSF?	Yes ✓ No___

TA INSPECTION

.	Form I's present (for each analytical fraction as defined by the Traffic Report/Chain of Custody Record)?	Yes ✓ No___
.	Forms 2 through 8 (VOC & SVOC), Forms 2 through 10 (Pesticides), Forms 2 through 14 (Metals & Cyanide) present?	Yes ✓ No___
	Raw data present (for each analytical fraction as defined by the Traffic Report/Chain of Custody Record)?	Yes ✓ No___
	Percent Solids Form present for soil samples?	Yes___ No___

E: If items 1, 3, 4, 6, 7, 8, 12, 14, 18, or 22 are missing, rective action measures must be taken by the CSF auditor and marized below.

)DIT NUMBER: 08-59-08

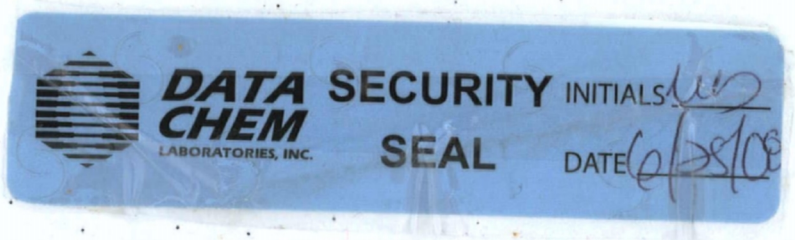
)MMENTS AND NOTES:

Carl Beard 6/30/08

ıditor Date

EPA OFFICIAL SEALS PAGE

lease attach all custody seals below:



AUDIT NUMBER: 08-59-08

EPA CLP ELECTRONIC DISKETTE(S)

CASE #: 37402 SDG #: MH2600

SITE NAME: Richardson Flat Tailings

RPM: Kathryn Hernandez

DATE: 6/30/08

AUDITOR: [signature]

Audit # 08-59-08
RAS - 37402
SDG - MH2600
Site - Richardson Flat Tailings
RPM - Kathryn Hernandez
Date - 6/30/08
Lab - DATAC

DATA CHEM LABORATORIES, INC.

SDG Administrative Narrative

Contract: EP-W-06-054

Case: 37402

SDG: MH2600

Set ID No.: 8155031, 8155032

Cooler # and temperatures of each (upon receipt)

Cooler Number C08- NA Arrival temperature was 6 °C

Cooler Number C08-_____ Arrival temperature was _____ °C

Cooler Number C08-_____ Arrival temperature was _____ °C

Cooler Number C08-_____ Arrival temperature was _____ °C

Cooler Number C08-_____ Arrival temperature was _____ °C

Cooler Number C08-_____ Arrival temperature was _____ °C

Cooler Number C08-_____ Arrival temperature was _____ °C

Cooler Number C08-_____ Arrival temperature was _____ °C

Cooler Number C08-_____ Arrival temperature was _____ °C

6/25/08 MS

Communications:

Any sample receiving issues with this SDG are fully documented through the email communications which are included as a portion of this SDG Narrative and immediately follow this page. Copies of each of these email communications are also located in the communication section of this datapackage. In addition, any analytical issues pertinent to a given fraction are fully documented by the analyst in the associated narrative for the applicable fraction.

Comments:

None.

Signature: _____ Date: 6/25/08

Olson, Roxanne

From: Kramer, Caroline [ckramer5@fedcsc.com]
Sent: Tuesday, June 03, 2008 12:28 PM
To: Olson, Roxanne
Cc: beard.carol@epa.gov
Subject: Region 08 | Case 37402 | Lab DATAC | Issue Discrepancies with tags, jars, and/or TR/COC | FINAL

Roxy,
Summary Start
Issue: DATAC received samples with the attached non-CLP TR/COC. The samples did not have CLP sample ID and were handwritten in with the commercial samples for this site, which DATAC is also analyzing.
Resolution: Per Region 8, the laboratory will use the CLP sample IDs provided in the table below (also as a spreadsheet attached). The water samples will require two CLP IDs for the dissolved and total metals analysis. The laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.

CLP Sample ID	Field Sample number	Matrix	Collection date	Collection time	Analysis reques
MH2600	SC-SW-1	water	6/2/2008	13:15	TM by ICP-MS (15
MH2601	SC-SW-1	water (DM)	6/2/2008	13:15	DM by ICP-MS (1554.1)
MH2608	SC-SW-1	soil	6/2/2008	13:15	TM/SPLP (1553
MH2602	SC-SW-2	water	6/2/2008	14:30	TM by ICP-MS (15
MH2603	SC-SW-2	water (DM)	6/2/2008	14:30	DM by ICP-MS (1554.1)
MH2609	SC-SW-2	soil	6/2/2008	14:30	TM/SPLP (1553
MH2604	SC-SW-3	water	6/2/2008	15:15	TM by ICP-MS (15
MH2605	SC-SW-3	water (DM)	6/2/2008	15:15	DM by ICP-MS (1554.1)
MH2610	SC-SW-3	soil	6/2/2008	15:15	TM/SPLP (1553
MH2606	SC-SW-4	water	6/2/2008	16:00	TM by ICP-MS (15
MH2607	SC-SW-4	water (DM)	6/2/2008	16:00	DM by ICP-MS (1554.1)
MH2611	SC-SW-4	soil	6/2/2008	16:00	TM/SPLP (1553

Issue 2: There were no sample tags received with the samples.
Resolution 2: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with the analysis of the samples.
Summary End

Please let me know if you have any questions or problems.
Thank you,

Caroline L. Kramer
ckramer5@fedcsc.com
Computer Sciences Corporation (CSC)
703.818.4248

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us by e-mail of the mistake in delivery. NOTE: Regardless of content, this e-mail shall not operate to bind CSC to any order or other contract unless pursuant to explicit written agreement or government initiative expressly permitting the use of e-mail for such purpose.

- ➔ 6/3/2008 Phone conversation between Caroline Kramer, SMO, and Carol Bears, Region 8. Carol indicated that SMO should provide new CLP sample IDs for the samples received on 6/3 under Case 37402. Region 8 has contacted the samplers and they will be using F2L to generate CLP TR's with CLP sample IDs in future shipments. Carol also indicated that there probably were no sample tags received with the samples and that the laboratory should note that issue in the SDG Narrative and proceed with the analysis.

- ➔ 6/3/2008 Phone conversation between Caroline Kramer, SMO, and Roxy Olson, DATAC. Roxy would like corresponding CLP sample IDs for the samples received on 6/3 with the attached TR/COC. Roxy also confirmed that no sample tags were received with the samples.

-----Original Message-----
From: Olson, Roxanne [mailto:olsonr@datachem.com]
Sent: Tuesday, June 03, 2008 1:14 PM
To: Kramer, Caroline
Subject: Case 37402

Attached is the DATAC CoC with the samples on it for the above referenced case. I just left you a message on your phone regarding this. Please call me and maybe we can sort it out.

Roxy

USEPA - CLP

COVER PAGE

Lab Name: DataChem Laboratories Contract: EP-W-06-054

Lab Code: DATAC Case No.: 37402 NRAS No.: 1554.1 SDG No.: MH2600

SOW No.: ILM05.4

EPA Sample No.	Lab Sample ID
MH2600	8155031001
MH2601	8155032001
MH2602	8155031002
MH2603	8155032002
MH2604	8155031003
MH2605	8155032003
MH2606	8155031004
MH2607	8155032004

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS Interelement corrections applied?	(Yes/No)	NO	YES
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	NO	NO
If yes - were raw data generated before application of background corrections?	(Yes/No)	NO	NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Neil Edwards

Date: 06/23/2008 Title: Chemist

DATA CHEM
LABORATORIES, INC.

SDG NARRATIVE

Case #: 37402
SDG#: MH2600
Contract #: EP-W-06-054
DCL Set ID#: 8155031 and 8155032
Modification#: 1554.1
June 24, 2008

General Information

The eight samples in this SDG were analyzed by methodologies contained in ILM05.4. All concentration, analytical, and method qualifiers are defined in the SOW.

Holding Times

The samples were prepared and analyzed within method required holding times.

Initial and Continuing Calibration

All initial and continuing calibration verification and blank analyses were performed within the designated frequency and recoveries of the verifications and concentrations of the blanks met method acceptance criteria.

ICP-MS Interference Check Sample Analysis

Results for the interference check samples met method acceptance criteria.

Preparation Blanks

The absolute values of all analyte concentrations in the preparation blanks were lower than the Contract Required Quantitation Limits.

Laboratory Control Sample Analysis

Results for the analysis of the water LCS met method acceptance criteria.

Matrix Spike Analysis

A matrix spike was not prepared or analyzed due to insufficient sample volume.

Matrix Duplicate Analysis

A matrix duplicate was not prepared or analyzed due to insufficient sample volume.

ICP-MS Serial Dilution

ICP-MS Serial Dilutions results met method acceptance criteria except for copper and nickel.

Miscellaneous Comments

All calibration data is linear, please see raw data.
Cooler Temps were at 6 °C.
Issue: Samples were received without CLP sample IDs.
Issue: No sample tags were received with the samples.
Issue: Insufficient sample volumes were received to prepare or analyze matrix spike and matrix spike duplicate samples.

Example Equations

960 West LeVoy Drive • Salt Lake City, Utah 84123-2502 • (800) 356-9135 • (801) 266-7700 • Fax (801) 268-9992
www.datachem.com

Method HW3: $C \times \frac{Vf}{Vi} \times DF = Concentration(\mu g/L)$

C = Instrument value in µg/L (The average of all replicate integrations).
Vf= Final digestion volume (mL)
Vi= Initial digestion volume (mL)
DF = Dilution Factor

Request for Quote (RFQ) for Modified Analysis

Date: April 22, 2008

Subject: Modification Reference Number: 1554.1
Title: ICP-MS with the Addition of Al, Ca, Fe, and Mg
Sample Matrix: Water
Fraction Affected: Metals
Statement of Work: ILM05.4

Purpose:

The Contractor Laboratory is requested to perform the following modified analyses under the Inorganic Statement of Work (SOW) ILM05.4, based on the additional specifications listed below. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in SOW ILM05.4 remain unchanged and in full force and effect. The number of samples requested in this modification is not guaranteed.

Please note that accepting a modified analysis request is voluntary, and that the Laboratory is not required to accept the modified analysis. There will be no adverse effect to the Laboratory for not accepting the modified analysis request. However, once the Laboratory accepts the request for modified analysis, it shall perform the analysis in accordance with this modification and as specified in SOW ILM05.4.

The Laboratory is requested to review the modification described herein, determine whether or not it shall accept the requested modified analyses, and complete the attached response form. The Laboratory shall provide comments in response to the required changes in the designated area, in order to ensure that the modified analysis can be completed in accordance with the specifications described herein.

Notice to Contractors: Acceptance of Modified Analysis samples will not count against the monthly capacity.

Modification to the SOW Specifications:

The contract Laboratory shall analyze water samples for the Target Analyte List (TAL), and the additional analytes Aluminum (Al), Calcium (Ca), Iron (Fe), and Magnesium (Mg), by ICP-MS as indicated on the Traffic Report/Chain of Custody record.

The Contract Required Quantitation Limits (CRQLs) and Matrix Spikes for the additional analytes are as follows:

Analyte	CRQL (ug/L)	Matrix Spike Level (ug/L)
Al	20	500
Ca	500	--
Fe	10	500
Mg	500	--

Please note that (--) indicates not required.

Method Detection Limit (MDL) studies for the additional analytes, by the preparation and analysis procedure used, are required. The MDLs shall be less than the CRQLs listed above.

The Laboratory shall add Al, Ca, Fe, and Mg to the ICV/CCV solutions at appropriate levels, if they are not already present in the standards.

The Laboratory is not required to modify the CRQL Check Standard (CRI) solution.

The Laboratory shall add Al, Ca, Fe, and Mg to the LCSW at a concentration of 500 ug/L, if they are not already present.

Reporting Requirements:

Hardcopy and electronic data reporting are required as specified per SOW ILM05.4. All hardcopy and electronic data shall be adjusted to incorporate modified specifications. This includes attaching a copy of the requirements for modified analysis to the SDG Narrative. If specific problems occur with incorporation of the modified analysis into the hardcopy and/or electronic deliverable, the Laboratory shall contact the DASS Manager within the Sample Management Office (SMO) at (703) 818-4233 or via email at CCSSUPPORT@fedcsc.com for resolution.

All samples and/or fractions assigned to an SDG shall be analyzed under the same Modified Analysis requirements as established in this memorandum. The Laboratory shall not include data from multiple Modified Analyses in one SDG.

The Laboratory shall include the Modification Reference Number 1554.1 on each hardcopy data form under the "NRAS No:" header appearing on each form as well as the "NRAS No." field on the Record type 21 of the electronic deliverable (if diskette deliverable is required). The Laboratory shall also document the Modification Reference Number and Solicitation Number on the SDG Coversheet.

Clarifications/Revisions to the RFQ for Modified Analysis:

The MDLs shall be less than the CRQLs listed in the table.

Laboratory Name: DATAC
Laboratory Comments:

Upon further investigation, we were able to locate unprocessed data from recently analyzed MDLs for the additional target analytes. After processing, we have an MDL for Al that meets the requirements. We obtained an MDL for Fe at 8 ug/L which is below the CRQL but not less than ½ the CRQL. We also have MDLs for Ca and Mg that are each below ½ the CRQL but these analytes have failed CCVs in the MDL run (the CCV concentrations were too low in comparison with the concentrations required for the MA).

SAMPLE LOG-IN SHEET

MDL 1554.1

Lab Name	DataChem Laboratories, Inc.		Page 1 of 1
Received By (Print Name)	NICOLE LORETZ		Log-In Date 6/3/08
Received By (Signature)			
Case Number 37402		Sample Delivery Group No. MH2600	NRAS Number n/a

Remarks:	EPA Sample #	Aqueous Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1. Custody Seal (s) Present/Absent* Intact/Broken*	MH2600	<2	n/a	8155801001	TM/ICPMS water
	01				DM/ICPMS water
2. Custody Seal Nos. n/a	02			1 002	TM/ICPMS water
	03				DM/ICPMS water
3. Chain-of Custody Records Present/Absent*	04			1 003	TM/ICPMS water
4. Traffic Report or Packing Lists Present/Absent*	05				DM/ICPMS water
5. Airbill Airbill/Sticker Present/Absent*	06			1 004	TM/ICPMS water
	07				DM/ICPMS water
6. Airbill No. n/a	08	n/a			SPLP metals soil
	09				
7. Sample Tags Present/Absent*	10				
Sample Tag Numbers Listed/Not Listed on Chain-of-Custody	11				
8. Sample Condition Intact/Broken*/ Leaking*					
9. Cooler Temperature Indicator Bottle Present/Absent*					
10. Cooler Temperature 6°					
11. Does information on custody records, traffic reports, and sample tags agree? Yes/No*					
12. Date Received at Lab 6/3/08					
13. Time Received 840					

Sample Transfer											
Fraction TM/DM/SPLP metals	Fraction										
Area # F-320.1	Area #										
By NL	By										
On 6/3/08	On										

* Contact SMO and attach record of resolution

Reviewed By Johanna Olsen	Logbook No. Not Applicable
Date 6/3/08	Logbook Page No. Not Applicable 7

SAMPLE LOG-IN SHEET

Copy

MDL 15541

Lab Name	DataChem Laboratories, Inc.	Page 1 of 1
Received By (Print Name)	NICOLE LORETZ	Log-In Date 6/3/08
Received By (Signature)		
Case Number 37402	Sample Delivery Group No. MH2600	NRAS Number n/a

Remarks:

1. Custody Seal (s) — Present/Absent* / Intact/Broken*
2. Custody Seal Nos. — n/a
3. Chain-of Custody Records — Present/Absent*
4. Traffic Report or Packing Lists — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No. — n/a
7. Sample Tags — Present/Absent* / Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition — Intact/Broken*/ Leaking*
9. Cooler Temperature Indicator Bottle — Present/Absent*
10. Cooler Temperature — 6°
11. Does information on custody records, traffic reports, and sample tags agree? — Yes/No*
12. Date Received at Lab — 6/3/08
13. Time Received — 840

EPA Sample #	Aqueous Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
MH2600	<2	n/a		TM/ICPMS Water
01			8155032 001	DM/ICPMS water
02 Air Blank				TM/ICPMS Water
03			002	DM/ICPMS Water
04				TM/ICPMS Water
05			003	DM/ICPMS Water
06		"		TM/ICPMS Water
07			004	DM/ICPMS Water
08	n/a			SPLP Metals Soil
09				
10				
11				

Sample Transfer

Fraction	Fraction
TM/DM/SPLP Metals	
Area # 2300.1	Area #
By NL	By
On 6/3/08	On

* Contact SMO and attach record of resolution

Reviewed By	Logbook No. Not Applicable
Date 6/3/08	Logbook Page No. Not Applicable 8

FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LABORATORY NAME	DataChem Laboratories, Inc.		
CITY/STATE	Salt Lake City, UT 84123		
CASE NO.	37402	SDG NO.:	MH2600
SDG NOs. TO FOLLOW	N/A		
NRAS No.	N/A		
CONTRACT NO.	EP-W-06-054		
SOW NO.	ILM05.4		

All documents delivered in the Complete SDG File must be original documents where possible. (Reference - Exhibit B Section 2.6)

		PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
1.	Cover Page	1	1	✓	✓
2.	SDG Narrative	2	6	✓	✓
3.	Sample Log-In Sheet (DC-1)	7	8	✓	✓
4.	Inventory Sheet (DC-2)	9	10	✓	✓
5.	Traffic Report/Chain of Custody Record(s)	11	17	✓	✓
	Inorganic Analysis				
6.	Data Sheet (Form I-IN)	18	25	✓	✓
7.	Initial & Continuing Calibration Verification (Form IIA-IN)	26	27	✓	✓
8.	CRQL Standard (Form IIB-IN)	28	29	✓	✓
9.	Blanks (Form III-IN)	30	31	✓	✓
10.	ICP-AES Interference Check Sample (Form IVA-IN)	NA		✓	
11.	ICP-MS Interference Check Sample (Form IVB-IN)	32	32	✓	✓
12.	Matrix Spike Sample Recovery (Form VA-IN)	NA		✓	
13.	Post-Digestion Spike Sample Recovery (Form VB-IN)	NA		✓	
14.	Duplicates (Form VI-IN)	NA		✓	
15.	Laboratory Control Sample (Form VII-IN)	33	33	✓	✓
16.	ICP-AES and ICP-MS Serial Dilutions (Form VIII-IN)	34	34	✓	✓
17.	Method Detection Limits (Annually) (Form IX-IN)	35	36	✓	✓
18.	ICP-AES Interelement Correction Factors (Quarterly) Form XA-IN)	NA		✓	
19.	ICP-AES Interelement Correction Factors (Quarterly) Form XB-IN)	NA		✓	
20.	ICP-AES and ICP-MS Linear Ranges (Quarterly) Form XI-IN)	37	37	✓	✓
21.	Preparation Log (Form XII-IN)	38	38	✓	✓

FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
22. Analysis Run Log (Form XIII-IN)	39	41	✓	✓
23. ICP-MS Tune (Form XIV-IN)	42	43	✓	✓
24. ICP-MS Internal Standards Relative Intensity Summary (Form XV-IN)	44	51	✓	✓
25. ICP AES Raw Data	NA		✓	
26. GFAA Raw Data (If Applicable)	NA		✓	
27. ICP-MS Raw Data	52	241	✓	✓
28. Mercury Raw Dta	NA		✓	
29. Cyanide Raw Data	NA		✓	
30. Preparation Logs Raw Data	242	242	✓	✓
31. Percent Solids Determination Log	NA		✓	
32. USEPA Shipping/Receiving Documents				
Airbill (No. of Shipments _____)	NA		✓	
Sample Tags	243	243	✓	✓
Sample Log-In Sheet (Lab)	NA		✓	
33. Misc. Shipping/Receiving Records (list all individual records)				
Telephone Logs	NA		✓	
DCL CRIR	NA		✓	
DCL SDG TR Cover Sheet	244	244	✓	✓
34. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
DCL Work Order	NA		✓	
DCL COC	245	246	✓	✓
35. Internal Original Sample Prep & Analysis Records (describe or list)				
Prep Records	247	254	✓	
Analysis Records	255	276	✓	✓
Description	NA		✓	
36. Other Records (describe or list)				
Telephone Communications Log	NA		✓	
E-mail Communications	277	278	✓	✓
			✓	

37. Comments: _____

Completed by: (CLP Lab) _____ (Signature) Melissa Duggan / Doc. Ctrl. (Print Name & Title) 6/25/08 (Date)

Audited By: (USEPA) _____ (Signature) _____ (Print Name & Title) 6/30/08 (Date)

SDG/MH2400

Case/ 37402

8155031

DataChem Laboratories, Inc.
Field Chain-of-Custody Record

MDL 1554.1

→ CLP ←

Page ____ of ____

Client Name & Address:	Project No.:	Sampler: (Signature)
Tetra Tech, Inc. 136 E South Temple, Ste. 910 Salt Lake City, UT 84111	100FFXT18974-6901 Project Name: Lower Silver Creek	
Phone: 801 364 1064		
FAX: 801 364 2021		
e-mail: chris.hayes@tetratech.com sam.wilkes@tetratech.com		

Field Sample Number	Site ID	Date	Time	Depth	DCL Sample Number	Preservation Code	Sample Matrix Code	Sample for Matrix QC	Analyses Requested: Dissolved Organic Carbon	Total Metals	Total Dissolved Metals	Ferric/Ferric Iron	SO_4	SPLP extraction	TAL-Metals		No. of Containers	Remarks
SC-SW-1	SC-SW-1	6/2/08	13:15				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	
SC-SW-2	SC-SW-2	6/2/08	14:30				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	
SC-SW-3	SC-SW-3	6/2/08	15:15				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	
SC-SW-4	SC-SW-4	6/2/08	16:00				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	

Matrix Codes: W) Water, B) Bulk, L) Liquid, F) Filter, S) Soil, G) Wipe, C) Solid, M) Media

Preservation Codes: 1) Cool to 4°C; 2) HCl to pH<2, 4°C; 3) H_2SO_4 to pH<2, 4°C; 4) HNO_3 to pH<2, 4°C; 5) NaOH to pH>12, 4°C; 6) ZnOAc/NaOH to pH>9, 4°C

Possible Hazard Identification
☐ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Archive for ____ Months
☐ Disposal by Lab
(a fee may be assessed if samples are retained longer than 3 months)

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days ☐ 21 Days
☐ 3 Days (Rush) ☐ 14 Days ☐ Other
(Rush is email or fax data unless previously approved)

Carrier/Airbill #:

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		6/3/08	0840
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

Shipped to:
DataChem Laboratories, Inc.
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
www.datachem.com

White - Laboratory Copy *Yellow - Client Copy*

Case 37402

CLP Sample ID	Field Sample number	Matrix	Collection date	Collection time	Analysis requested
MH2600	SC-SW-1	water	6/2/2008	13:15	TM by ICP-MS (1554.1)
MH2601	SC-SW-1	water (DM)	6/2/2008	13:15	DM by ICP-MS (1554.1)
MH2608	SC-SW-1	soil	6/2/2008	13:15	TM/SPLP (1553.0)
MH2602	SC-SW-2	water	6/2/2008	14:30	TM by ICP-MS (1554.1)
MH2603	SC-SW-2	water (DM)	6/2/2008	14:30	DM by ICP-MS (1554.1)
MH2609	SC-SW-2	soil	6/2/2008	14:30	TM/SPLP (1553.0)
MH2604	SC-SW-3	water	6/2/2008	15:15	TM by ICP-MS (1554.1)
MH2605	SC-SW-3	water (DM)	6/2/2008	15:15	DM by ICP-MS (1554.1)
MH2610	SC-SW-3	soil	6/2/2008	15:15	TM/SPLP (1553.0)
MH2606	SC-SW-4	water	6/2/2008	16:00	TM by ICP-MS (1554.1)
MH2607	SC-SW-4	water (DM)	6/2/2008	16:00	DM by ICP-MS (1554.1)
MH2611	SC-SW-4	soil	6/2/2008	16:00	TM/SPLP (1553.0)

DATA CHEM LABORATORIES, INC.

8155032

DataChem Laboratories, Inc.
Field Chain-of-Custody Record

SDG/ MH2900

CASE/ 37407

MDL 1554.1

→ CLP

Page ____ of ____

Client Name & Address:	Project No.:	Sampler: (Signature)
Tetra Tech, Inc. 136 E South Temple, Ste. 910 Salt Lake City, UT 84111	100FFXT18974-6901	
Phone: 801 364 1064	Project Name: Lower Silver Creek	
FAX: 801 364 2021		
e-mail: chris.hayes@tetratech.com sam.wilkes@tetratech.com		

Field Sample Number	Site ID	Date	Time	Depth	DCL Sample Number	Preservation Code	Sample Matrix Code	Sample for Matrix QC	Analyses Requested: Dissolved Organic Carbon	Total Metals	Total Dissolved Metals	Ferric/Ferric Iron	SO_4	SPLP extraction	TAL-Metals		No. of Containers	Remarks
SC-SW-1	SC-SW-1	6/2/08	15:15				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	
SC-SW-2	SC-SW-2	6/2/08	14:30				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	
SC-SW-3	SC-SW-3	6/2/08	15:15				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	
SC-SW-4	SC-SW-4	6/2/08	16:00				W		X	X	X	X	X				5	
"	"	"	"				S							X	X		1	

Matrix Codes: W) Water, B) Bulk, L) Liquid, F) Filter, S) Soil, G) Wipe, C) Solid, M) Media

Preservation Codes: 1) Cool to 4°C; 2) HCl to pH<2, 4°C; 3) H_2SO_4 to pH<2, 4°C; 4) HNO_3 to pH<2, 4°C; 5) NaOH to pH>12, 4°C; 6) ZnOAc/NaOH to pH>9, 4°C

Possible Hazard Identification
☐ Non-Hazard ☐ Skin Irritant ☐ Rad
☐ Flammable ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☐ Archive for ____ Months
☐ Disposal by Lab
(a fee may be assessed if samples are retained longer than 3 months)

Requested Turn Around Time
☐ 2 Days (Rush) ☐ 7 Days ☐ 21 Days
☐ 3 Days (Rush) ☐ 14 Days ☐ Other
(Rush is email or fax data unless previously approved)

Carrier/Airbill #:

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Chris Hayes		6/3/08	0840
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

Shipped to:
DataChem Laboratories, Inc.
960 West LeVoy Drive
Salt Lake City, UT 84123
Phone: (800) 356-9135
Phone: (801) 266-7700
FAX: (801) 268-9992
www.datachem.com

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White - Laboratory Copy *Yellow - Client Copy*

CoC.xls

8/17/2005 Revision

Case 37402

CLP Sample ID	Field Sample number	Matrix	Collection date	Collection time	Analysis requested
MH2600	SC-SW-1	water	6/2/2008	13:15	TM by ICP-MS (1554.1)
MH2601	SC-SW-1	water (DM)	6/2/2008	13:15	DM by ICP-MS (1554.1)
MH2608	SC-SW-1	soil	6/2/2008	13:15	TM/SPLP (1553.0)
MH2602	SC-SW-2	water	6/2/2008	14:30	TM by ICP-MS (1554.1)
MH2603	SC-SW-2	water (DM)	6/2/2008	14:30	DM by ICP-MS (1554.1)
MH2609	SC-SW-2	soil	6/2/2008	14:30	TM/SPLP (1553.0)
MH2604	SC-SW-3	water	6/2/2008	15:15	TM by ICP-MS (1554.1)
MH2605	SC-SW-3	water (DM)	6/2/2008	15:15	DM by ICP-MS (1554.1)
MH2610	SC-SW-3	soil	6/2/2008	15:15	TM/SPLP (1553.0)
MH2606	SC-SW-4	water	6/2/2008	16:00	TM by ICP-MS (1554.1)
MH2607	SC-SW-4	water (DM)	6/2/2008	16:00	DM by ICP-MS (1554.1)
MH2611	SC-SW-4	soil	6/2/2008	16:00	TM/SPLP (1553.0)

Request for Quote (RFQ) for Modified Analysis

Date: April 22, 2008

Subject: Modification Reference Number: 1554.1
Title: ICP-MS with the Addition of Al, Ca, Fe, and Mg
Sample Matrix: Water
Fraction Affected: Metals
Statement of Work: ILM05.4

Purpose:

The Contractor Laboratory is requested to perform the following modified analyses under the Inorganic Statement of Work (SOW) ILM05.4, based on the additional specifications listed below. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in SOW ILM05.4 remain unchanged and in full force and effect. The number of samples requested in this modification is not guaranteed.

Please note that accepting a modified analysis request is voluntary, and that the Laboratory is not required to accept the modified analysis. There will be no adverse effect to the Laboratory for not accepting the modified analysis request. However, once the Laboratory accepts the request for modified analysis, it shall perform the analysis in accordance with this modification and as specified in SOW ILM05.4.

The Laboratory is requested to review the modification described herein, determine whether or not it shall accept the requested modified analyses, and complete the attached response form. The Laboratory shall provide comments in response to the required changes in the designated area, in order to ensure that the modified analysis can be completed in accordance with the specifications described herein.

Notice to Contractors: Acceptance of Modified Analysis samples will not count against the monthly capacity.

Modification to the SOW Specifications:

The contract Laboratory shall analyze water samples for the Target Analyte List (TAL), and the additional analytes Aluminum (Al), Calcium (Ca), Iron (Fe), and Magnesium (Mg), by ICP-MS as indicated on the Traffic Report/Chain of Custody record.

The Contract Required Quantitation Limits (CRQLs) and Matrix Spikes for the additional analytes are as follows:

Analyte	CRQL (ug/L)	Matrix Spike Level (ug/L)
Al	20	500
Ca	500	--
Fe	10	500
Mg	500	--

Please note that (--) indicates not required.

Method Detection Limit (MDL) studies for the additional analytes, by the preparation and analysis procedure used, are required. The MDLs shall be less than the CRQLs listed above.

The Laboratory shall add Al, Ca, Fe, and Mg to the ICV/CCV solutions at appropriate levels, if they are not already present in the standards.

The Laboratory is not required to modify the CRQL Check Standard (CRI) solution.

The Laboratory shall add Al, Ca, Fe, and Mg to the LCSW at a concentration of 500 ug/L, if they are not already present.

Reporting Requirements:

Hardcopy and electronic data reporting are required as specified per SOW ILM05.4. All hardcopy and electronic data shall be adjusted to incorporate modified specifications. This includes attaching a copy of the requirements for modified analysis to the SDG Narrative. If specific problems occur with incorporation of the modified analysis into the hardcopy and/or electronic deliverable, the Laboratory shall contact the DASS Manager within the Sample Management Office (SMO) at (703) 818-4233 or via email at CCSSUPPORT@fedcsc.com for resolution.

All samples and/or fractions assigned to an SDG shall be analyzed under the same Modified Analysis requirements as established in this memorandum. The Laboratory shall not include data from multiple Modified Analyses in one SDG.

The Laboratory shall include the Modification Reference Number 1554.1 on each hardcopy data form under the "NRAS No:" header appearing on each form as well as the "NRAS No." field on the Record type 21 of the electronic deliverable (if diskette deliverable is required). The Laboratory shall also document the Modification Reference Number and Solicitation Number on the SDG Coversheet.

Clarifications/Revisions to the RFQ for Modified Analysis:

The MDLs shall be less than the CRQLs listed in the table.

Laboratory Name: DATAC
Laboratory Comments:

Upon further investigation, we were able to locate unprocessed data from recently analyzed MDLs for the additional target analytes. After processing, we have an MDL for Al that meets the requirements. We obtained an MDL for Fe at 8 ug/L which is below the CRQL but not less than ½ the CRQL. We also have MDLs for Ca and Mg that are each below ½ the CRQL but these analytes have failed CCVs in the MDL run (the CCV concentrations were too low in comparison with the concentrations required for the MA).